

SEQUENCE LISTING

<110> ENDO, NOBORU  
YOSHIDA, KOUKI  
AKIYOSHI, MIHO  
YOSHIDA, YASUKO  
OHSUMI, CHIEKO  
IGARASHI, DAISUKE

<120> GENE CAPABLE OF IMPARTING SALT STRESS RESISTANCE

<130> 279689US0XPCT

<140> 10/553,124  
<141> 2005-10-14

<150> PCT/JP04/05403  
<151> 2004-04-15

<150> JP 2003-113194  
<151> 2003-04-17

<150> JP 2004-075932  
<151> 2004-03-17

<160> 17

<170> PatentIn version 3.3

<210> 1  
<211> 1554  
<212> DNA  
<213> Seashore Paspalum

<220>

<221> CDS

<222> (131)..(1222)

<400> 1  
ggcacgagga ggcgcgcccc cgggttgcag acactgccag tgcaacagag ccgcggacc 60  
acacgcccccc tcgcgcgctc acacagagag agacacacag atcgatcgag cggccggccg 120  
gacggcgcag atg gcg atc ggc ggg gcg gag gcc ggc ggg gga ggc gcg 169  
Met Ala Ile Gly Gly Ala Glu Ala Gly Gly Gly Gly Ala  
1 5 10

ggg gcc agc ggc cgg agc gtg ctg gtg acg ggc ggc gcg ggg ttc atc 217  
Gly Ala Ser Gly Arg Ser Val Leu Val Thr Gly Gly Ala Gly Phe Ile  
15 20 25

|   |     |
|---|-----|
| ggc acg cac acg gcg ctg cgc ctg ctg gag cag ggc tac ggc gtc acc | 265 |
| Gly Thr His Thr Ala Leu Arg Leu Leu Glu Gln Gly Tyr Gly Val Thr |     |
| 30 35 40 45   |     |
| gtc gtc gac aac ttc cac aac tcc gtc ccc gag gcg ctc gaa cgc gtc | 313 |
| Val Val Asp Asn Phe His Asn Ser Val Pro Glu Ala Leu Glu Arg Val |     |
| 50 55 60  |     |
| cgc ctc atc gcc ggg ccc gcg ctc tcc gcc cgc ctc gac ttc atc cgg | 361 |
| Arg Leu Ile Ala Gly Pro Ala Leu Ser Ala Arg Leu Asp Phe Ile Arg |     |
| 65 70 75  |     |
| ggg gat ctg agg agc gcc ggg gac ttg gag aag gcg ttc gcg gcc agg | 409 |
| Gly Asp Leu Arg Ser Ala Gly Asp Leu Glu Lys Ala Phe Ala Ala Arg |     |
| 80 85 90  |     |
| agg tac gac gcc gtc gtc cac ttc gcg ggg ctc aag gcc gtc ggg gag | 457 |
| Arg Tyr Asp Ala Val Val His Phe Ala Gly Leu Lys Ala Val Gly Glu |     |
| 95 100 105  |     |
| agc gtc gcg cgc ccg gac atg tac tac gag aac aac ctc gcc ggc acc | 505 |
| Ser Val Ala Arg Pro Asp Met Tyr Tyr Glu Asn Asn Leu Ala Gly Thr |     |
| 110 115 120 125   |     |
| atc aac ctc tac aag gcc atg aac gag cac ggc tgc aag aag atg gtg | 553 |
| Ile Asn Leu Tyr Lys Ala Met Asn Glu His Gly Cys Lys Lys Met Val |     |
| 130 135 140   |     |
| ttc tcg tcg tcc gcg acc gtg tac ggc tgg ccg gag gtg atc ccg tgc | 601 |
| Phe Ser Ser Ala Thr Val Tyr Gly Trp Pro Glu Val Ile Pro Cys     |     |
| 145 150 155   |     |
| gtc gag gac tcc aag ctg cag gcc gcc aac ccc tac ggc agg acc aag | 649 |
| Val Glu Asp Ser Lys Leu Gln Ala Ala Asn Pro Tyr Gly Arg Thr Lys |     |
| 160 165 170   |     |
| ctc atc ctg gag gag ttg gcg cgg gac tac cag cgc gcg gac ccg ggc | 697 |
| Leu Ile Leu Glu Glu Leu Ala Arg Asp Tyr Gln Arg Ala Asp Pro Gly |     |
| 175 180 185   |     |
| tgg agc atc gtc ctg ctg cgc tac ttc aac ccc atc ggc gcc cac agc | 745 |
| Trp Ser Ile Val Leu Leu Arg Tyr Phe Asn Pro Ile Gly Ala His Ser |     |
| 190 195 200 205   |     |
| tcc ggc gag atc ggc gag gac ccc aag ggg gtg ccc aac aac ctg ctg | 793 |
| Ser Gly Glu Ile Gly Glu Asp Pro Lys Gly Val Pro Asn Asn Leu Leu |     |
| 210 215 220   |     |
| ccc tac atc cag cag gtc gcc gtc ggc agg ctc ccc gag ctc aac gtc | 841 |
| Pro Tyr Ile Gln Gln Val Ala Val Gly Arg Leu Pro Glu Leu Asn Val |     |

| 225  | 230 | 235 |  |
|--|-----|-----|--|
| tac ggc cac gat tac ccc acc cgt gac ggc acc gcg atc agg gac tac<br>Tyr Gly His Asp Tyr Pro Thr Arg Asp Gly Thr Ala Ile Arg Asp Tyr<br>240  | 245 | 250 | 889  |
| ata cac gtc gtc gac ctg gcc gac ggg cac atc gcg gcg ctg aac aag<br>Ile His Val Val Asp Leu Ala Asp Gly His Ile Ala Ala Leu Asn Lys<br>255  | 260 | 265 | 937  |
| ctg ttc gac act cct gat ttc ggt tgt gtg gcc tac aat ctg ggc aca<br>Leu Phe Asp Thr Pro Asp Phe Gly Cys Val Ala Tyr Asn Leu Gly Thr<br>270  | 275 | 280 | 985  |
| ggg cgc ggc aca tcc gtt ctc gag atg gtg gcg gcg ttc aag aag gca<br>Gly Arg Gly Thr Ser Val Leu Glu Met Val Ala Ala Phe Lys Lys Ala<br>290  | 295 | 300 | 1033   |
| tcc ggc aag gag atc ccc acc aag atg tgc ccc agg aga ccg ggt gac<br>Ser Gly Lys Glu Ile Pro Thr Lys Met Cys Pro Arg Arg Pro Gly Asp<br>305  | 310 | 315 | 1081   |
| gcg acg gag gtt tac gcg tcc act gag aag gcc gaa agg gag ctc gga<br>Ala Thr Glu Val Tyr Ala Ser Thr Glu Lys Ala Glu Arg Glu Leu Gly<br>320  | 325 | 330 | 1129   |
| tgg agg gcc cag tat gga atc gag gag atg tgc agg gac cag tgg aac<br>Trp Arg Ala Gln Tyr Ile Glu Glu Met Cys Arg Asp Gln Trp Asn<br>335  | 340 | 345 | 1177   |
| tgg gcc aag aag aac ccc tat ggc tac tgc ggc act gcc gaa aaa<br>Trp Ala Lys Lys Asn Pro Tyr Gly Tyr Cys Gly Thr Ala Glu Lys<br>350  | 355 | 360 | 1222   |
| tagagcgcgt gcattaatca gatctctgga ctgaatttgt ccatggttga tggttgtctc<br>agacctatcg gtggaagatg taacaagtag agaccgctcg aatgtgccta gctacgaaag<br>tttcgtacca tctctcttgt cataacctca tgtagatggt catttatttga aattagcct<br>tagccttcag gcccggcgct gtttagccatt gcttgctatc gaggttaggtg gggttggaac<br>tttgggggcc cttgaacttc cattatcatc attcgcacag acggcacagt tgcgcaagtga<br>gccgttact gcttgtaaaa aaaaaaaaaa aa |     |     | 1282<br>1342<br>1402<br>1462<br>1522<br>1554 |

<210> 2  
 <211> 364  
 <212> PRT  
 <213> Seashore Paspalum

<400> 2

Met Ala Ile Gly Gly Ala Glu Ala Gly Gly Gly Gly Ala Gly Ala Ser  
1 5 10 15

Gly Arg Ser Val Leu Val Thr Gly Gly Ala Gly Phe Ile Gly Thr His  
20 25 30

Thr Ala Leu Arg Leu Leu Glu Gln Gly Tyr Gly Val Thr Val Val Asp  
35 40 45

Asn Phe His Asn Ser Val Pro Glu Ala Leu Glu Arg Val Arg Leu Ile  
50 55 60

Ala Gly Pro Ala Leu Ser Ala Arg Leu Asp Phe Ile Arg Gly Asp Leu  
65 70 75 80

Arg Ser Ala Gly Asp Leu Glu Lys Ala Phe Ala Ala Arg Arg Tyr Asp  
85 90 95

Ala Val Val His Phe Ala Gly Leu Lys Ala Val Gly Glu Ser Val Ala  
100 105 110

Arg Pro Asp Met Tyr Tyr Glu Asn Asn Leu Ala Gly Thr Ile Asn Leu  
115 120 125

Tyr Lys Ala Met Asn Glu His Gly Cys Lys Lys Met Val Phe Ser Ser  
130 135 140

Ser Ala Thr Val Tyr Gly Trp Pro Glu Val Ile Pro Cys Val Glu Asp  
145 150 155 160

Ser Lys Leu Gln Ala Ala Asn Pro Tyr Gly Arg Thr Lys Leu Ile Leu  
165 170 175

Glu Glu Leu Ala Arg Asp Tyr Gln Arg Ala Asp Pro Gly Trp Ser Ile  
180 185 190

Val Leu Leu Arg Tyr Phe Asn Pro Ile Gly Ala His Ser Ser Gly Glu  
195 200 205

Ile Gly Glu Asp Pro Lys Gly Val Pro Asn Asn Leu Leu Pro Tyr Ile  
210 215 220

Gln Gln Val Ala Val Gly Arg Leu Pro Glu Leu Asn Val Tyr Gly His  
225 230 235 240

Asp Tyr Pro Thr Arg Asp Gly Thr Ala Ile Arg Asp Tyr Ile His Val  
245 250 255

Val Asp Leu Ala Asp Gly His Ile Ala Ala Leu Asn Lys Leu Phe Asp  
260 265 270

Thr Pro Asp Phe Gly Cys Val Ala Tyr Asn Leu Gly Thr Gly Arg Gly  
275 280 285

Thr Ser Val Leu Glu Met Val Ala Ala Phe Lys Lys Ala Ser Gly Lys  
290 295 300

Glu Ile Pro Thr Lys Met Cys Pro Arg Arg Pro Gly Asp Ala Thr Glu  
305 310 315 320

Val Tyr Ala Ser Thr Glu Lys Ala Glu Arg Glu Leu Gly Trp Arg Ala  
325 330 335

Gln Tyr Gly Ile Glu Glu Met Cys Arg Asp Gln Trp Asn Trp Ala Lys  
340 345 350

Lys Asn Pro Tyr Gly Tyr Cys Gly Thr Ala Glu Lys  
355 360

<210> 3  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 3  
ggtgacgacga ctccctggagc ccg

23

<210> 4  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 4  
ttgacaccag accaactggt aatg

24

<210> 5  
<211> 339  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 5  
tgccgtggc tccggcggt tcgccttcca cgagcaccac gagaagaagg aggaccacaa 60  
ggacgcccag gaggccggcg gcgagaagaa gcaccacttc ttccggctgat ccatctcacc 120  
atctccatct cccacccca tcgatccatt tgtgttggct ttaattccct gcgtgcattgc 180  
gtgttgttga ataaggggcc ggttccatct gtacgtacgt gtactccgag acctatcg 240  
atgtgtgtgt gtgtacgtat acctgctgtg tacatgatgg tcgtatatgc cactggacta 300  
tgtgtgtgtg caactctgtt ctgatttgct atatataag 339

<210> 6  
<211> 497  
<212> DNA  
<213> Seashore Paspalum

<400> 6  
tgcagggacc agtggaaactg ggccaagaag aacccctatg gctactgcgg cactgccgaa 60  
aaatagagcg cgtgcattaa tcagatctt ggactgaatt tgtccatgg tggatgtt 120  
ctcagaccta tcgggtggaaag atgtaacaag tagagaccgc tcgaatgtgc ctagctacga 180

agtttcgtac catctctctt gtcataacct catgttagatg gtcattttat tggaaattgc 240  
cttagccttc aggcccggcg ctgttaaaat ttgtttaca catggatttt ctcgctacgt 300  
gtgatacata ttgtgtctgt aataatcctg atcggagttt ccagtaataa aaccgatcca 360  
cgacgggtggc tacgccctgt gttgttagtac tgtgaatatg atgtggtaat aacaataact 420  
tgcagtgaga cttcagctt caaa 480  
aaaaaaaaaaaa aaaaaaaaaa 497

<210> 7  
<211> 396  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 7  
ggccgctgtg cagggaccag tggaaactggg ccaagaagaa cccctatggc tactgcggca 60  
ctgccaaaaa atagagcgcg tgcattaatc agatctctgg actgaatttg tccatggttg 120  
atggttgtct cagacctatac ggtggaagat gtaacaagta gagaccgctc gaatgtgcct 180  
agctacgaag tttcgtagcca tctctttgt cataacctca tgttagatggt catttatttg 240  
gaattagcct tagccttcag gcccgccgct gttaaaattt gtttacaca tggattttct 300  
cgctacgtgt gatacatatt gtgtctgtaa taatcctgat cggagtttcc agtaataaaa 360  
ccgatccacg acggtggcta cgcctgtgt tgttagt 396

<210> 8  
<211> 1540  
<212> DNA  
<213> Seashore Paspalum

<220>  
<221> CDS  
<222> (110)..(1183)

<400> 8  
ggcacgaggg agagattgag agggaaatcga gttcatcctc cctccaccat cgccgatcat 60  
agccttcct tccccgatcg ccgatccgat ccacaagcaa gcagccagg atg gtt tct 118

| Met Val Ser   |     |
|---|-----|
| 1   |     |
| gct gtt ctt cgt acc atc ctt gtg acg ggc ggc gcc ggc tac atc ggc | 166 |
| Ala Val Leu Arg Thr Ile Leu Val Thr Gly Gly Ala Gly Tyr Ile Gly |     |
| 5 10 15   |     |
| agc cac acc gtg ctg ctg ctg cag cag gga ttc cgc gtc gtc gtc     | 214 |
| Ser His Thr Val Leu Leu Leu Gln Gln Gly Phe Arg Val Val Val     |     |
| 20 25 30 35   |     |
| gtc gac aac ctc gac aac gcc tcc gac gtc gcg ctc gcc cgc gtc gcg | 262 |
| Val Asp Asn Leu Asp Asn Ala Ser Asp Val Ala Leu Ala Arg Val Ala |     |
| 40 45 50  |     |
| cag ctc gca gca agc agc aac ggc ggc gcc aac ctc gtc ttc cac     | 310 |
| Gln Leu Ala Ala Ser Ser Asn Gly Gly Ala Ala Asn Leu Val Phe His |     |
| 55 60 65  |     |
| aag gtt gac ctt cgc gac agg cac gcg ctg gag gac atc ttc tcc tcc | 358 |
| Lys Val Asp Leu Arg Asp Arg His Ala Leu Glu Asp Ile Phe Ser Ser |     |
| 70 75 80  |     |
| cac agg ttt gag gct gtg att cat ttt gct ggg ctc aaa gct gtt ggc | 406 |
| His Arg Phe Glu Ala Val Ile His Phe Ala Gly Leu Lys Ala Val Gly |     |
| 85 90 95  |     |
| gag agc gtg cag aag ccg ctg ctt tac tac gac aac aac ctc atc ggc | 454 |
| Glu Ser Val Gln Lys Pro Leu Leu Tyr Tyr Asp Asn Asn Leu Ile Gly |     |
| 100 105 110 115   |     |
| acc atc acc ctc ctc gag gtc atg gcc gca cat ggc tgc aag aag ctg | 502 |
| Thr Ile Thr Leu Leu Glu Val Met Ala Ala His Gly Cys Lys Lys Leu |     |
| 120 125 130   |     |
| gtg ttc tcg tca tct gca act gtc tat ggg tgg ccc aag gaa gtg cca | 550 |
| Val Phe Ser Ser Ala Thr Val Tyr Gly Trp Pro Lys Glu Val Pro     |     |
| 135 140 145   |     |
| tgc acc gaa gaa ttc cct ctt tgc gcc acc aac ccc tat ggg cga acc | 598 |
| Cys Thr Glu Glu Phe Pro Leu Cys Ala Thr Asn Pro Tyr Gly Arg Thr |     |
| 150 155 160   |     |
| aag ctt gtg att gaa gat atc tgc cgc gac gtc cac cgt tca gac cct | 646 |
| Lys Leu Val Ile Glu Asp Ile Cys Arg Asp Val His Arg Ser Asp Pro |     |
| 165 170 175   |     |
| gat tgg aag atc ata ctg ctc agg tac ttc aac cct gtt ggt gct cat | 694 |
| Asp Trp Lys Ile Ile Leu Leu Arg Tyr Phe Asn Pro Val Gly Ala His |     |
| 180 185 190 195   |     |

|   |      |
|---|------|
| cca agc gga cac atc ggt gaa gac ccc tct gga atc cca aac aac ctg<br>Pro Ser Gly His Ile Gly Glu Asp Pro Ser Gly Ile Pro Asn Asn Leu<br>200 205 210     | 742  |
| atg ccc tat gtc cag caa gtt gcc gtt ggg agg agg cct cac ctc act<br>Met Pro Tyr Val Gln Gln Val Ala Val Gly Arg Arg Pro His Leu Thr<br>215 220 225     | 790  |
| gtc tat gga acc gac tac aac aca aag gat gga act ggg gtg cgc gat<br>Val Tyr Gly Thr Asp Tyr Asn Thr Lys Asp Gly Thr Gly Val Arg Asp<br>230 235 240     | 838  |
| tat atc cat gtt gtt gac ctg gcc gat ggg cac ata gca gcc ctg ggg<br>Tyr Ile His Val Val Asp Leu Ala Asp Gly His Ile Ala Ala Leu Gly<br>245 250 255     | 886  |
| aag ctc tat gaa gac tct gac aga ata ggg tgt gag gta tac aac ctg<br>Lys Leu Tyr Glu Asp Ser Asp Arg Ile Gly Cys Glu Val Tyr Asn Leu<br>260 265 270 275 | 934  |
| ggc aca gga aag ggg act tcg gtg ctg gaa atg gtg gct gca ttc gag<br>Gly Thr Gly Lys Gly Thr Ser Val Leu Glu Met Val Ala Ala Phe Glu<br>280 285 290     | 982  |
| aag gtt tct ggc aag aaa atc cct ctg gtg ctt gct ggg cga aga cct<br>Lys Val Ser Gly Lys Ile Pro Leu Val Leu Ala Gly Arg Arg Pro<br>295 300 305         | 1030 |
| gga gat gca gag att gtt tat gct gca act gcc aag gcc gag aaa gag<br>Gly Asp Ala Glu Ile Val Tyr Ala Ala Thr Ala Lys Ala Glu Lys Glu<br>310 315 320     | 1078 |
| ctg aaa tgg aag gcc aag tac ggg att gaa gag atg tgc aga gac cag<br>Leu Lys Trp Lys Ala Lys Tyr Gly Ile Glu Glu Met Cys Arg Asp Gln<br>325 330 335     | 1126 |
| tgg aac tgg gca agc aaa aac ccc tac ggg tat gct gga tca ccc gac<br>Trp Asn Trp Ala Ser Lys Asn Pro Tyr Gly Tyr Ala Gly Ser Pro Asp<br>340 345 350 355 | 1174 |
| aac agc agc tgactgaaag caaatgcatg ctatgcatga tagggagatc<br>Asn Ser Ser  | 1223 |
| gagcagcaga ccacttacca ctgctagtaa aagaagtcga gtctcagaat accaccgtac   | 1283 |
| gtatgcttac taaatagtcc gaggacggac ggacggatga tccatgtgtg gggcctcgta   | 1343 |
| ttctcatttg tatagagggc cgaggatgaa gatccccagt cccatccatc cggcttatttg  | 1403 |
| ttgctaccgt caatccatgt ttaagaaata aaccctatg catgtatgct tatcgatcta  | 1463 |

|   |                                   |      |     |
|---|-----------------------------------|------|-----|
| ctgtactagc taattatata ggcatatgtat                               | tatttgttag attcttatac aaaaaaaaaaa | 1523 |     |
| aaaaaaaaaaa aaaaaaaaa   |                                   | 1540 |     |
|   |                                   |      |     |
| <210> 9   |                                   |      |     |
| <211> 358   |                                   |      |     |
| <212> PRT   |                                   |      |     |
| <213> Seashore Paspalum   |                                   |      |     |
|   |                                   |      |     |
| <400> 9   |                                   |      |     |
|   |                                   |      |     |
| Met Val Ser Ala Val Leu Arg Thr Ile Leu Val Thr Gly Gly Ala Gly |                                   |      |     |
| 1   | 5                                 | 10   | 15  |
|   |                                   |      |     |
| Tyr Ile Gly Ser His Thr Val Leu Leu Leu Leu Gln Gln Gly Phe Arg |                                   |      |     |
| 20  | 25                                | 30   |     |
|   |                                   |      |     |
| Val Val Val Val Asp Asn Leu Asp Asn Ala Ser Asp Val Ala Leu Ala |                                   |      |     |
| 35  | 40                                | 45   |     |
|   |                                   |      |     |
| Arg Val Ala Gln Leu Ala Ala Ser Ser Asn Gly Gly Ala Ala Asn Leu |                                   |      |     |
| 50  | 55                                | 60   |     |
|   |                                   |      |     |
| Val Phe His Lys Val Asp Leu Arg Asp Arg His Ala Leu Glu Asp Ile |                                   |      |     |
| 65  | 70                                | 75   | 80  |
|   |                                   |      |     |
| Phe Ser Ser His Arg Phe Glu Ala Val Ile His Phe Ala Gly Leu Lys |                                   |      |     |
| 85  | 90                                | 95   |     |
|   |                                   |      |     |
| Ala Val Gly Glu Ser Val Gln Lys Pro Leu Leu Tyr Tyr Asp Asn Asn |                                   |      |     |
| 100   | 105                               | 110  |     |
|   |                                   |      |     |
| Leu Ile Gly Thr Ile Thr Leu Leu Glu Val Met Ala Ala His Gly Cys |                                   |      |     |
| 115   | 120                               | 125  |     |
|   |                                   |      |     |
| Lys Lys Leu Val Phe Ser Ser Ala Thr Val Tyr Gly Trp Pro Lys     |                                   |      |     |
| 130   | 135                               | 140  |     |
|   |                                   |      |     |
| Glu Val Pro Cys Thr Glu Glu Phe Pro Leu Cys Ala Thr Asn Pro Tyr |                                   |      |     |
| 145   | 150                               | 155  | 160 |

Gly Arg Thr Lys Leu Val Ile Glu Asp Ile Cys Arg Asp Val His Arg  
165 170 175

Ser Asp Pro Asp Trp Lys Ile Ile Leu Leu Arg Tyr Phe Asn Pro Val  
180 185 190

Gly Ala His Pro Ser Gly His Ile Gly Glu Asp Pro Ser Gly Ile Pro  
195 200 205

Asn Asn Leu Met Pro Tyr Val Gln Gln Val Ala Val Gly Arg Arg Pro  
210 215 220

His Leu Thr Val Tyr Gly Thr Asp Tyr Asn Thr Lys Asp Gly Thr Gly  
225 230 235 240

Val Arg Asp Tyr Ile His Val Val Asp Leu Ala Asp Gly His Ile Ala  
245 250 255

Ala Leu Gly Lys Leu Tyr Glu Asp Ser Asp Arg Ile Gly Cys Glu Val  
260 265 270

Tyr Asn Leu Gly Thr Gly Lys Gly Thr Ser Val Leu Glu Met Val Ala  
275 280 285

Ala Phe Glu Lys Val Ser Gly Lys Lys Ile Pro Leu Val Leu Ala Gly  
290 295 300

Arg Arg Pro Gly Asp Ala Glu Ile Val Tyr Ala Ala Thr Ala Lys Ala  
305 310 315 320

Glu Lys Glu Leu Lys Trp Lys Ala Lys Tyr Gly Ile Glu Glu Met Cys  
325 330 335

Arg Asp Gln Trp Asn Trp Ala Ser Lys Asn Pro Tyr Gly Tyr Ala Gly  
340 345 350

Ser Pro Asp Asn Ser Ser

<210> 10  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 10  
acagagccgc aaaaccacac 20

<210> 11  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 11  
ttcgttagcta ggcacatattcg agcggtg 27

<210> 12  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 12  
gtcgtcgaca acttccacaa 20

<210> 13  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 13  
ttgttctcggt agtacatgtc 20

<210> 14  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 14  
atgaaaaagc ctgaactcac 20

<210> 15  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 15  
cgaaccggct cgtctggcta 20

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 16  
gtggtcgaca acttccacaa 20

<210> 17  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic DNA

<400> 17  
ttgttctcgta acatgtat 17